

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



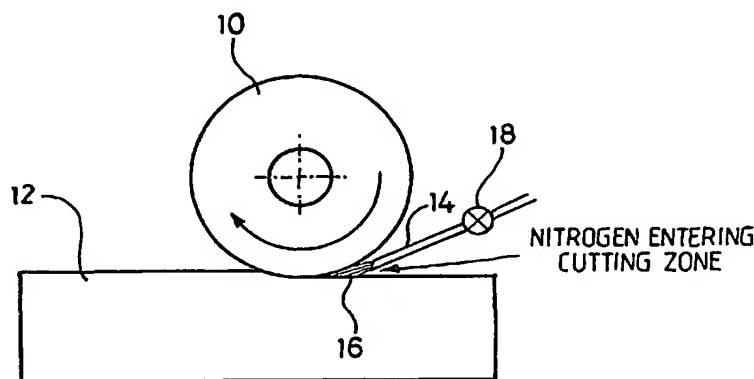
(43) International Publication Date
14 October 2004 (14.10.2004)

PCT

(10) International Publication Number
WO 2004/087376 A1

- (51) International Patent Classification⁷: B24B 55/02, 9/10 (74) Agent: KEITH W NASH & CO; 90-92 Regent Street, Cambridge CB2 1DP (GB).
- (21) International Application Number: PCT/GB2003/004885 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 11 November 2003 (11.11.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0307512.4 1 April 2003 (01.04.2003) GB
0319862.9 26 August 2003 (26.08.2003) GB
- (84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
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- Published:
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: WORKPIECE COOLING DURING GRINDING



(57) Abstract: A method of cooling during grinding in which liquid nitrogen is applied to the contact region between a rotating grinding wheel and a workpiece especially glass workpieces for cooling same without marking or staining unground regions of the workpiece surface by contact with the coolant. The workpiece may be rotated during grinding and may have a flat or profiled surface to be ground. A grinding machine for performing the method comprises a machine bed, a workpiece holder, workpiece drive means for moving the workpiece holder and a workpiece carried thereon, a grinding wheel, a drive by which the grinding wheel is rotated, a wheelhead carrying the wheel and drive therefor, a slideway by which the wheelhead can move relative to the workpiece, wheelhead drive means for moving the wheelhead, a source of liquid nitrogen, valve means and pipeline means communicating between the source and a nozzle, drive means for positioning the nozzle relative to the wheel and workpiece, and a control system for controlling the operation of each of the drive means and the valve means to supply liquid nitrogen to the grinding region during grinding and to control the nozzle drive means during grinding so as to move the nozzle to direct liquid nitrogen towards the region of grinding contact between the wheel and workpiece. The control system also controls the operation of the further drive means to adjust the position of the nozzle during grinding so as to follow the movement of the wheel relative to the workpiece during the grinding.